

## *Death and Architecture: The Pre-Pottery Neolithic A Burials at WF16, Wadi Faynan, Southern Jordan*

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### INTRODUCTION

The neolithic of the Levant marks the earliest appearance of sedentary farming communities in the world. The transition from hunting-gathering to farming began between 20,000 and 10,500 years ago, the latter marking the start of the Pre-Pottery Neolithic B (PPNB) period, during which domesticated cereals, sheep, and goat begin to appear (Kuijt & Goring-Morris 2002). Whether there was a relatively rapid transition during the preceding Pre-Pottery Neolithic A (PPNA) period (11,700–10,500 BP), perhaps as a response to the dramatic global warming that marks the end of the Pleistocene, or a more gradual emergence arising from long-term subsistence intensification during the Epipalaeolithic (20,000–11,700 BP) remains an issue of contention (for general reviews see Mithen 2003; Barker 2006). It is undisputed, however, that the transition to sedentary farming lifestyles encompassed all aspects of economy, technology, architecture, social organisation, ideology, and ‘culture’ in the widest possible sense. Archaeological evidence indicating that attitudes towards life and death were transformed as part of this process should not be surprising as the harvesting and then sowing of domesticated crops are fundamentally related to manipulating the process of regeneration.

The documentation and interpretation of Epipalaeolithic, PPNA, and PPNB mortuary evidence is inevitably constrained by the quality and quantity of data available. This is notably limited for the PPNA period, which many see as the critical phase of transition from hunter-gatherer to farming lifestyles. In this contribution, we present new evidence concerning PPNA mortuary practices from the site of WF16 in southern Jordan. The

number of burials located at this settlement is unusually high for a PPNA site. It stands at around forty burials found within the limits of the excavation (Table 6.1), but the total number of burials must be higher, considering the spatial and stratigraphic extent of the unexcavated part of the settlement. The excavation report is still undergoing preparation, and osteological analysis has yet to be undertaken. As such, any interpretation of this data set remains both incomplete and provisional. But even from the evidence currently available, WF16 contributes greatly towards our knowledge of PPNA burial and the transformation in mortuary practice across the hunter-gatherer–farming lifestyle transition in southwestern Asia.

We will show that the relationship between the living and the dead at WF16 was defined not only by the different ways in which the people were treated at death, but also through diverse attitudes towards their remains for a prolonged period post-mortem. The roles played by memory, curation, secondary intervention, and manipulation of human remains created multiple layers of mortuary practice at WF16, which was also part of the life of the settlement itself, with real consequences for its living community. This is best seen through the manner in which the dead continued to be part of the settlement through careful choreography of burials, the treatment of the human remains, and the repeatedly changing architectural make-up of the settlement the burials were positioned within.

### PPNA AND PPNB MORTUARY PRACTICES

While noting the absence of documented PPNA cemeteries, Kuijt and Goring-Morris (2002) drew on evidence

Table 6.1. *Table of burials at WF16***F8, Context 298**, Structure F8, Evaluation Trench 2

△ Cut into redeposited gravel, with the skull protruding through the floor of a PPNA structure and stratigraphically sealed by two PPNA floors and associated occupation. ✎ A NE-SW orientated arrangement of articulated and disarticulated bones with disarticulated skull placed on a 'pillow' stone. ✎ Fragile especially in the upper part of the inhumation. At least two adults and a juvenile appear to be present. ❖ Chipped stone artefacts including bladelets, a microlith and an awl.

**F39910**, Structure F3992, Evaluation Trench 3

△ With its skull probably protruding through the floor of a PPNA structure and positioned on a 'pillow' stone; stratigraphically sealed by a PPNA floor. ✎ A NE-SW orientated crouched inhumation on its right side with the skull facing NW. The skull was disarticulated but in position by appearing to have been stretched from the body and then placed on a 'pillow' stone. ✎ Appears to be a complete but fragile adult skeleton. ❖ Chipped stone artefacts.

**O3**, Structure O31

△ Cut through the infill and wall of a disused PPNA structure and sealed by deflated overburden. ✎ Undetermined. ✎ Fragmentary remains, appearing to consist of only two hand or foot bones, one long bone and several ribs

**O4**, Midden O60

△ Cut into PPNA midden deposits and sealed by deflated overburden. ✎ Probably a crouched inhumation; a mortar fragment had been set on an edge appearing to form one side of the burial. ✎ Fragmentary – only some hand and feet bones survive. ❖ Fragment of a mortar stone

**O6**, Area O108

△ Cut through the wall of a PPNA structure and sealed by deflated overburden. ✎ A NE-SW orientated crouched inhumation, lying on its back with legs bent to the right and head facing to the left. ✎ Appears to be a complete, well preserved juvenile skeleton. ❖ Fragment of a possibly worked animal bone.

**O7**, Structure O31

△ Cut through PPNA infill inside the structure and sealed by a PPNA floor. ✎ A N-S orientated crouched inhumation on its left side, facing east. ✎ Appears to be a complete but poorly preserved adult skeleton. ❖ A hammerstone, an El Khiam point and a chipped stone pick.

**O8**, Area O108

△ Cut through the infill of a disused PPNA structure and sealed by deflated overburden. ✎ A semi-crouched inhumation, orientated E-W with its head at the east end facing NE. ✎ A fragmentary and poorly preserved juvenile skeleton appearing to have the lower right arm, complete left arm, hand and unfused epiphyses missing. ❖ A green stone bead.

**O9**, Structure O65

△ Cut through the wall of a PPNA structure and sealed by deflated overburden. ✎ A crouched inhumation on its right side, orientated E-W and facing north with its left hand under the skull. ✎ A fragmentary juvenile skeleton appearing to have only the skull, arms, hands and feet present. ❖ Four chipped stone artefacts and a caprine pelvis.

**O10**, Structure O84

△ Cut through the infill of a disused PPNA structure and sealed by deflated overburden. ✎ A N-S orientated crouched inhumation on its right side with its head to the south facing east. ✎ Fragmentary remains with, at least, both scapulae, left side of the rib cage, hands and feet missing; bones in a poor condition with the inhumation having been affected by animal burrowing. ❖ A chipped stone artefact and a grooved ground stone object.

**O17**, Midden O60

△ Cut into and sealed by PPNA midden deposits. ✎ A NW-S orientated crouched inhumation on its right side with the head probably originally facing west, but cranium moved post-depositionally in front of the mandible to face south. ✎ An incomplete and poorly preserved adult skeleton.

**O24**, Area O108. **Figure 6.17.**

△ Cut through the infill of a disused PPNA structure and cut by Burial O8. ✎ A NW-SE orientated crouched inhumation on its left side with its right hand underneath the skull facing SE. ✎ A slightly crushed juvenile skeleton. ❖ A marine shell bead.

**O26**, Structure O84

△ Cut through the infill of a disused PPNA structure and sealed by deflated overburden. ✎ A NW-SE orientated crouched inhumation on its right side with two large stones placed on top of the body, one on the pelvis and one over the ribcage. ✎ An adult skeleton which appears to have been truncated above its lower ribs by deflation. ❖ Two chipped stone artefacts, a groundstone pestle and a fragment of red ochre.

**O27**, Structure O114. **Figure 6.7.**

△ Cut through the infill of a disused PPNA structure and sealed by deflated overburden. ✎ A N-S orientated crouched inhumation on its right side, facing west. ✎ A poorly preserved juvenile skeleton, appearing to have some of its cranium missing. ❖ Two marine shell beads and a marine shell.

*(Continued)*

Table 6.1. (Continued)

- O28, Structure O65. Figure 6.12.**  
 △ Cut through the infill of a disused PPNA structure and sealed by deflated overburden. ✎ A NE-SW orientated crouched inhumation on its left side, facing SE. ✖ A crushed and fragmentary juvenile or young adult skeleton, with at least its right ribs and foot missing, and both humeri in a fragmentary condition. ❖ Four chipped stone artefacts and a large stone
- O32, Structure O72**  
 △ Cut through the infill of a disused PPNA structure and sealed by deflated overburden. ✎ A N-S orientated primary crouched inhumation on its right side, disturbed by the secondary deposition of multiple cranial fragments after the rearrangement of some of the original bones. ✖ The secondary cranial fragments have been truncated at the crown; the primary adult burial is in poorly preserved condition. ❖ Seven chipped stone artefacts (core, blades or bladelets and El Khiam points), two animal bones, stone bead.
- O35, Structure O113. Figure 6.15.**  
 △ Cut through the infill of a disused PPNA structure and cut by a robber pit, then sealed by overburden. ✎ A N-S orientated crouched inhumation on its left side, facing east. ✖ Although truncated and crushed by the robbing activity, the juvenile skeleton appears reasonably well-preserved, with gypsum-like concretion on its right ribs.
- O36, Structure O83. Figure 6.8.**  
 △ Cut through the wall of the PPNA structure and sealed by PPNA deposits. ✎ A NE-SW orientated crouched inhumation on its right side facing SE, skeleton encased in mud lining and capping. ✖ A well-preserved adult skeleton with occasional black staining visible on the bones. ❖ A green stone bead, a serrated blade and a possible phallic object.
- O37, Structure O83. Figure 6.9.**  
 △ Cut through the wall of the PPNA structure and sealed by deflated overburden. ✎ A NW-SE orientated crouched inhumation on its right side with its head facing NW and tilted downwards. ✖ A well-preserved juvenile skeleton apart from a truncation of the crown of the skull. ❖ Two chipped stone bladelets and a marine shell bead.
- O38, Structure O83. Figure 6.10.**  
 △ Cut through the wall of the PPNA structure and cut by an Antique burial. ✎ A primary inhumation appearing to have been originally crouched on its right side and orientated SW-NE, facing NW with a hand below the skull. ✖ A fragmentary infant cranium on top of a heavily truncated primary burial of which only the skull, lower arm and hand appear to have survived; the skull of the primary burial has a gypsum-like residue and black linear markings. ❖ A fragment of possibly worked animal bone.
- O39, Structure O83. Figure 6.11.**  
 △ Cut through the wall of a disused PPNA structure and cut by a probable PPNA pit, then sealed by overburden. ✎ Secondary burial of semi-articulated remains. Not clear whether of one or more individuals. Some of the bones placed in gypsum-lined woven basket or cloth. 'Excess' gypsum found next to the skull. ✖ Relatively well preserved skeletal remains but in a jumbled arrangement. The bones were lifted in blocks, some of which were coated in a gypsum-like substance. ❖ Three blades or bladelets, an El Khiam point, a borer and a green stone bead.
- O41, Structure O53**  
 △ Cut through the wall of a PPNA structure, cut by a PPNA pit and then sealed by overburden. ✎ An E-W orientated primary inhumation crouched on its right side with the head originally to the west. ✖ An adult skeleton truncated across its upper body by a cut interpreted as an exhumation pit used to remove the skull and upper body parts. ❖ Four blades.
- O43, Structure O19**  
 △ Cut through the wall of the PPNA structure and Burial O93, and probably sealed by the infill of a disused PPNA structure. ✎ A NW-SE orientated crouched inhumation on its right side with the head end to the NW. ✖ Poorly preserved and crumbly probably adult skeleton. Possible gypsum-like substance noted adhering to the bones. ❖ A fragment of animal bone.
- O44, Structure O12**  
 △ Disarticulated teeth, mandible and skull fragments scattered among the collapsed rubble of the PPNA structure and sealed by further PPNA infilling. ✎ Scattered fragments of a cranium and mandible. ✖ Well-preserved.
- O47, Area O108, Structure O75**  
 △ Cut into a PPNA structure (mud-plaster bench) and sealed by PPNA make up deposits for an eroded structure. ✎ A NE-SW orientated crouched inhumation on its right side with its left hand under the skull and infant cranium fragments scattered around the body, perhaps deriving from an earlier and disturbed inhumation. ✖ A well-preserved adult primary burial with fragments of an infant cranium. ❖ A chipped stone blade placed on the chest and a stone object.
- O76, Structure O72**  
 △ Cut through the wall of a PPNA structure and sealed by PPNA deposits. ✎ A N-S orientated crouched inhumation on its left side facing east, with both hands partially under the skull. ✖ Appears to be a complete but fragile adult skeleton. ❖ A chipped stone blade and two marine shell beads.
- O77, Structure O114**  
 △ Cut through the infill of a disused PPNA structure, possibly cut by burial O27, and then sealed by overburden. ✎ A group of disarticulated long bones with articulated unfused epiphyses. ✖ Reasonably well-preserved remains of a juvenile skeleton.

**O78, Structure O72**

△ Human mandible within the infill of a disused PPNA structure and sealed by PPNA deposits. ⚡ A disarticulated mandible. ✖ Well-preserved.

**O79, Structure O72**

△ Cut through the infill of a disused PPNA structure and sealed by PPNA deposits. ⚡ A N-S orientated crouched inhumation on its left side facing east. ✖ An almost complete but very fragile infant skeleton, with a truncated skull and its lower left arm and hand missing.

**O80, Structure O113. Figure 6.14.**

△ Cut through the infill of a disused PPNA structure and sealed by PPNA deposits. ⚡ A N-S orientated crouched inhumation on its back with its head to the north and facing east, and with its legs bent eastwards. ✖ A well-preserved adult skeleton. ❖ Chipped stone artefacts, including four blades, an animal bone and a lozenge-shaped stone object.

**O81, Structure O64**

△ Cut through a PPNA sequence inside a structure and sealed by multiple PPNA floors and occupation deposits. ⚡ Probably a N-S orientated crouched inhumation on its left side facing east. This was only partially exposed, being observed through a later pit cut that had allowed access to the burial. ✖ A well-preserved adult skeleton (unexcavated).

**O82, Structure O65. Figure 6.13.**

△ Cut through a possible floor inside a PPNA structure and sealed by PPNA deposits. ⚡ A WNW-ESE orientated crouched inhumation on its right side with its right hand under the skull facing west. ✖ Appears to be a well-preserved juvenile skeleton apart from a truncated left side of the skull. ❖ Six chipped stone artefacts, including five blades, two stone objects, two bone beads, a bone point and a probable fox ulna.

**O89, Structure O83**

△ Cut through the infill of a disused PPNA structure and cut by an Antique burial. ⚡ A N-S orientated and probably crouched inhumation, on its left side facing west. ✖ A well-preserved but truncated infant skeleton.

**O93, Structure O19. Figure 6.6.**

△ Cut through the wall of a PPNA structure and cut by Burial O43. ⚡ A NW-SE orientated crouched inhumation on its left side, with its right hand partially under the skull. ✖ Appears to be a complete but fragile adult skeleton. ❖ Two chipped stone blades, a green stone bead and a worked animal bone.

**O101, Midden O60**

△ Placed within and sealed by PPNA midden deposits. ⚡ A NW-SE orientated crouched inhumation, possibly on its right side. ✖ A fragmentary juvenile skeleton, with its leg bones in a disturbed position. ❖ A stone bead.

**O122, Structure O84**

△ Cut through the infill of a disused PPNA structure and sealed by deflated overburden. ⚡ Skeletal remains which are either disarticulated or heavily disturbed. ✖ Fragments of a cranium, mandible and ribs.

**O123, Midden O60**

△ An articulated human foot found within and sealed by PPNA midden deposits. ⚡ Isolated. ✖ Articulated foot.

**O124, Structure O85**

△ No visible cut and so either placed within the infill of a disused PPNA structure or suffering from severe deflation; sealed by overburden. ✖ Fragmentary remains of an infant cranium.

**O125, Structure O72**

△ No visible cut and so either placed within the infill of a disused PPNA structure or suffering from severe deflation; sealed by overburden. ✖ Only right scapula, two right ribs and pelvis fragments present.

**O126, Structure O75**

△ Found within the rubble filling a disused structure and sealed by PPNA midden. ✖ The fragmentary remains of at least one cranium and possibly associated leg bones.

**O128, Structure O33**

△ Disarticulated maxilla and skull fragments found within the rubble infill of a PPNA structure and sealed by further PPNA backfill, floors and structures. ⚡ Isolated finds at two different levels of infill. ✖ Fragments of a maxilla and cranium.

**O129, Structure O45**

△ Disarticulated teeth, mandible and skull fragments scattered within the collapse rubble of a burnt PPNA structure and sealed by PPNA levelling and occupation deposits. ✖ Scattered fragments of a cranium and mandible.

**Notes:**

△ Summary of context and stratigraphy (for full details see Mithen et al. in preparation).

⚡ Field observations of position, orientation, or placement.

✖ Field observations of bone preservation or surface modification.

❖ Field observations of small finds coming from burial fill (these are likely to include a mix of deliberate deposition and those pre-existing within sediment used for the burial fill; further artefacts will be recovered from sieve residues of the fills. See Mithen et al. in prep. for full discussion).

from Jericho (Kunth & Röhren-Entl 1981), Netiv Hagdud (Belfer-Cohen et al. 1990), Hatoula, and Nahal Oren to describe PPNA mortuary practices as having been relatively standardised and differentiated between adults and children. After death, adults and children were buried without grave goods in individual interments; in some cases, the location of the skull appears to have been marked, enabling this to be removed later without significant disturbance to the post-cranial skeleton. Kuijt and Goring-Morris suggest that skulls may have been cleaned and used by the living community prior to re-burial, but acknowledge that this is 'difficult to trace archaeologically' (Kuijt & Goring-Morris 2002, 376). The archaeological evidence is also insufficient to confirm Kuijt and Goring-Morris' suggestion that infants were placed in dedicatory positions within houses, such as foundations, while adults were predominately placed in intra- or extra-mural locations. The absence of grave goods, burial of individuals, use of simple graves, and practice of skull removal are interpreted as serving 'to integrate communities and downplay socioeconomic differences between individuals and kin groups in the face of economic and social change' (Kuijt & Goring-Morris 2002, 377; see further discussion in Kuijt 1996, 2000).

The mortuary practices of the PPNB period have been more extensively documented in light of the larger number of burials from sites such as Jericho, 'Ain Ghazal, Aswad, Beidha, Jerf el Ahmar, Nahal Hamar, Yiftahel, Tell Halula, and Kfar HaHoresh. Continuing their review of the Pre-Pottery Neolithic, Kuijt and Goring-Morris (2002, 394) described the mortuary practices of the PPNB as consisting of three inter-related systems: '(1) the primary interment of adults, probably both males and females in single graves; (2) the interment of infants in single graves; (3) the secondary removal of some, but not all, adult skulls from primary graves for some form of unknown ritual use with the eventual reburial in caches of single or multiple skulls'. Rollefson (1983) has characterised a further form of burial, the 'trash' burial, where an individual appears to have been discarded in midden deposits.

Kuijt and Goring-Morris (2002) argue that infants appear to have been more frequently buried in 'fill' and courtyard areas than within architecture, with a low incidence of skull removal, but some cases of infant burials in dedicatory positions, such as within foundations, have been documented.

Some of the removed skulls in the PPNB were 'decorated'. Several, perhaps all, of those within a cache of six

skulls at Nahal Hemar had been partially covered in black asphalt in a geometric pattern (Arensburg & Hershkovitz 1989). Some skulls had faces modelled in plaster adhered onto them, occasionally providing a realistic impression of flesh. A variety of techniques were used, these appearing to vary between localities (Goren et al. 2001). These included multiple plastering events, painting, and inserting shells for eyes. Some skulls that had been plastered lacked mandibles, resulting in a distorted face. Kuijt (2008) has used this to argue that the plastering of skulls had not been done to create portraits of specific individuals. The re-burial of plastered and un-plastered skulls often occurred in caches, with a repeated pattern being found at 'Ain Ghazal of three skulls in a row within the southeast corner of a room and facing away from its centre. In addition to skulls themselves, human masks, statues, and figurines played a prominent role in PPNB ritual activity. The most striking evidence of this is the two caches of half-life-size plaster figures found within pits at 'Ain Ghazal (Tubb & Grissom 1995).

Kuijt and Goring-Morris (2002, 397) argue that the type of multi-stage mortuary practices evident from the PPNB were 'planned in advance, often held in conjunction by multiple households as part of a community festival, and require extraordinary levels of community involvement'. The deliberate removal of some or all of the skeletal parts has been related to ancestor worship, but what that might mean is not clear (Kuijt 2008). Watkins (1992) has suggested that the appearance of sub-floor burials may relate to new forms of residence, ownership, and lineage. While the primary burial of an individual may be a household event, secondary mortuary rituals often cross-cut households and kin groups, appearing to emphasise the community over the individual (Kuijt & Goring-Morris 2002, 397). Recent analysis of dental data from Çatalhöyük (Pilloud & Larsen 2011) has indicated that the proposition that burials within a single structure may be related to kin groups or families appears faulty, and that our ideas of Neolithic burial may be overly simplistic.

#### WF16: A PPNA SITE IN SOUTHERN JORDAN

Wadi Faynan 16 (WF16) is a PPNA site currently dated between 11,600 and 10,200 BP located in southern Jordan (Finlayson & Mithen 2007). It was discovered in 1996 as a scatter of chipped and ground stone artefacts across the surface of a knoll at the juncture between Wadis Faynan and Ghuwayr, immediately before the landscape climbs

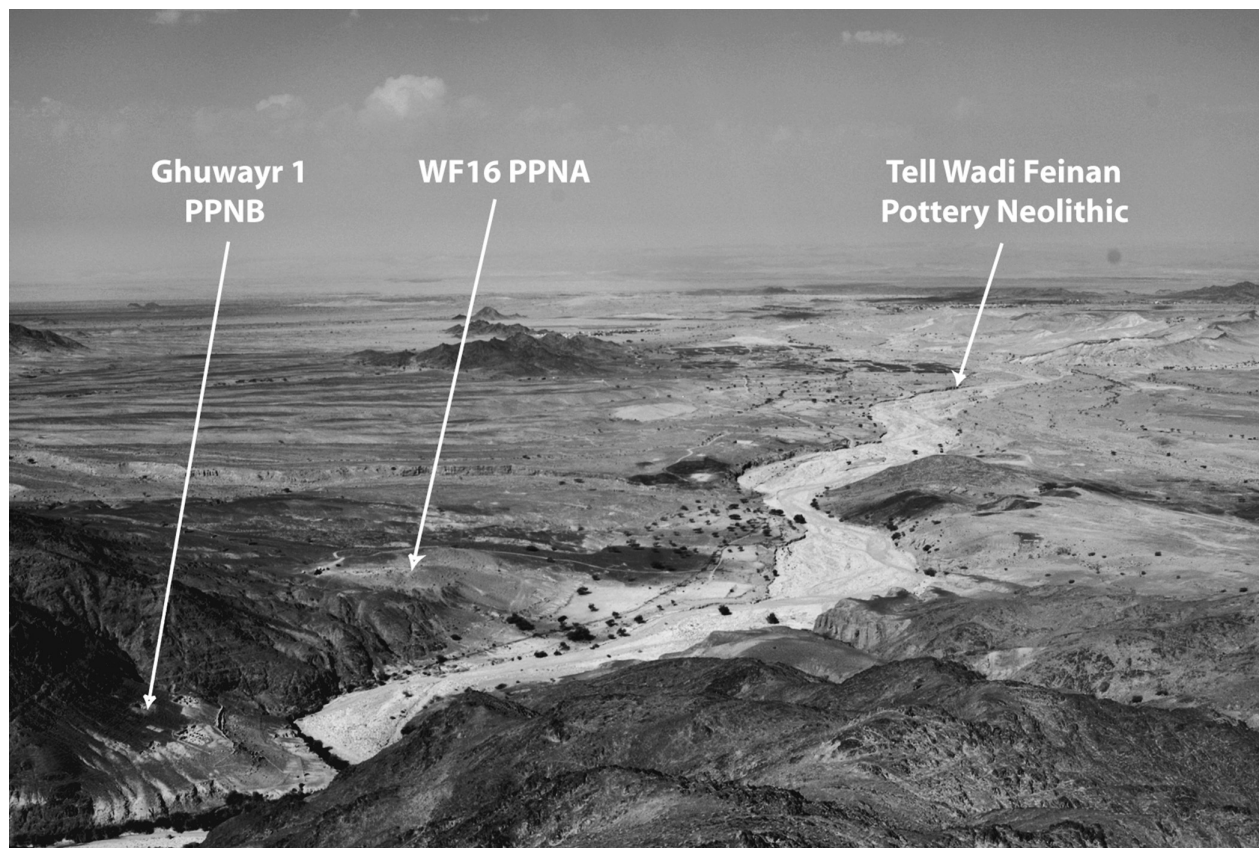


Figure 6.1. Wadi Faynan, southern Jordan, looking west towards the Wadi Araba and showing the location of Neolithic settlements.

to the Jordanian plateau, and in close association with the PPNB and Pottery Neolithic settlements of Ghuwayr 1 and Tell Wadi Feinan (Figure 6.1).

The site was evaluated between 1997 and 2003 by test excavation including test-pitting, three trial trenches at the peripheries of the settlement (Trenches 1, 2, and 3), and a geophysical survey. It was found to have relatively deeply stratified deposits with good faunal preservation as compared to other PPNA sites, a diverse material culture and presence of large structures, and burials (Finlayson & Mithen 2007).

An excavation covering the central area of the settlement was undertaken between 2008 and 2010. This exposed a dense cluster of pisé-walled, semi-subterranean structures (Figure 6.2), along with a monumental structure containing a central 'trough' and embedded grinding stones, the function of which remains unclear (Mithen et al. 2011). The smaller structures appear to have served a number of specific purposes, including storage and work spaces, with a number of midden and extra-mural deposits (Figure 6.3). All structures and clusters of contexts

within structures that relate to a distinct entity, such as a burial, are referred to as 'Objects', as in Burial O81 or Structure O45 (Figure 6.4), except for two burials found during the evaluation of the site in Trenches 2 and 3, which are referred to as Burial F8(298) and Burial F39910. The upper horizons of the structures were often severely deflated and disturbed. It is likely that the structural remains of a final phase of PPNA activity has been almost entirely eroded from the surface of the knoll, this being represented by stone mortars on and near the surface, a single free-standing building (O100) that had partially survived by having been constructed from a lower level within the base of an earlier structure (O75), and a number of other much less well preserved circular structures (OIII).

Although large samples of animal bones and plant remains have been recovered, the analysis of these has not yet begun and hence the economy of the settlement remains to be determined; evidence from the 1997–2003 site evaluation indicated a reliance on wild animals and plants (Finlayson & Mithen 2007). The technology and



Figure 6.2. Excavation of Wadi Faynan, April 2008, showing exposure of a dense cluster of pisé-walled structures and the large, partly excavated sub-circular structure (O75) in the foreground.

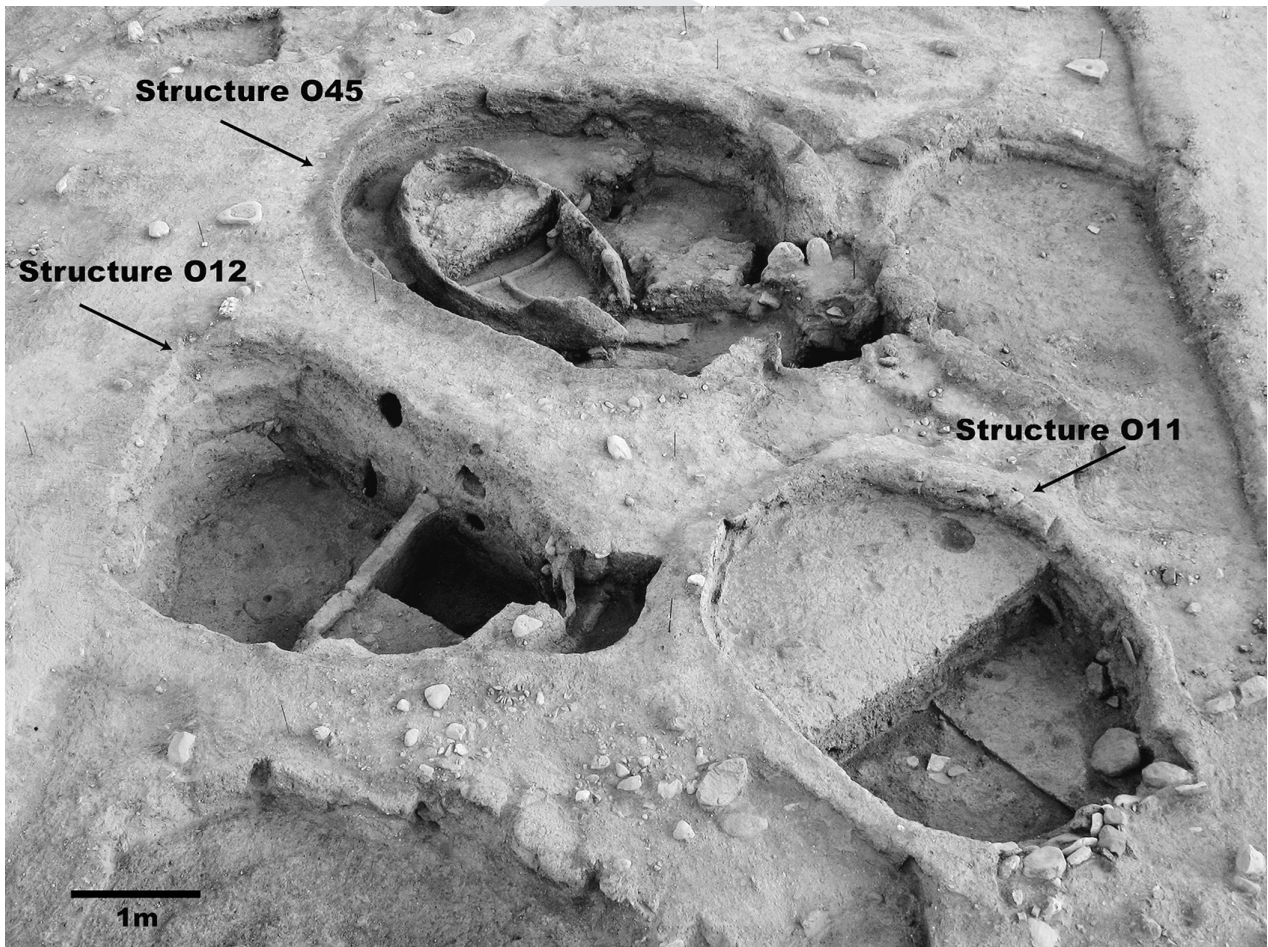


Figure 6.3. Semi-subterranean, pisé-walled structures at WF16, April 2010.

THE PRE-POTTERY NEOLITHIC A BURIALS AT WF16

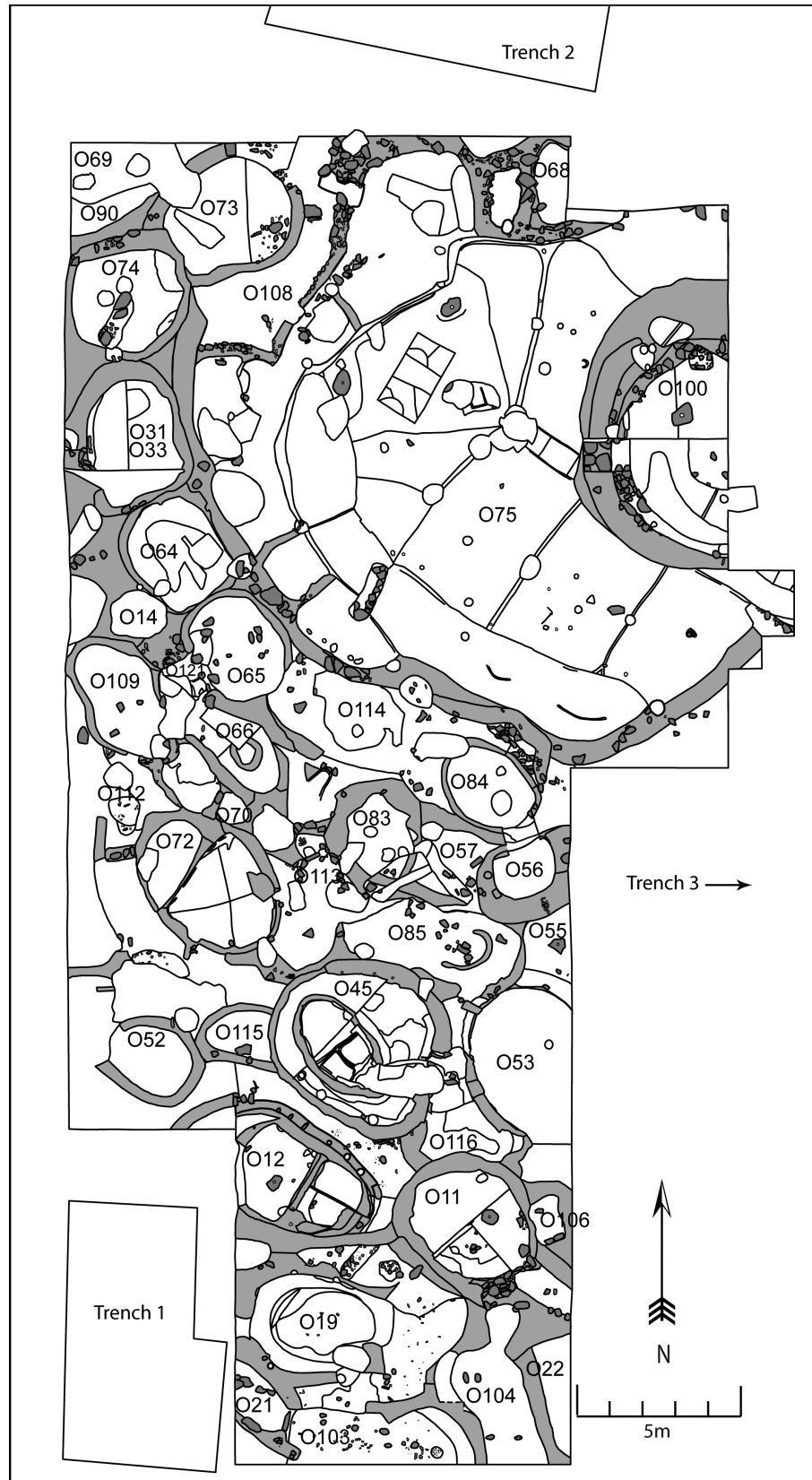


Figure 6.4. Plan of WF16, showing dense cluster of semi-subterranean pisé-walled structures, the large sub-circular structure (O75), and the later circular structure O100.



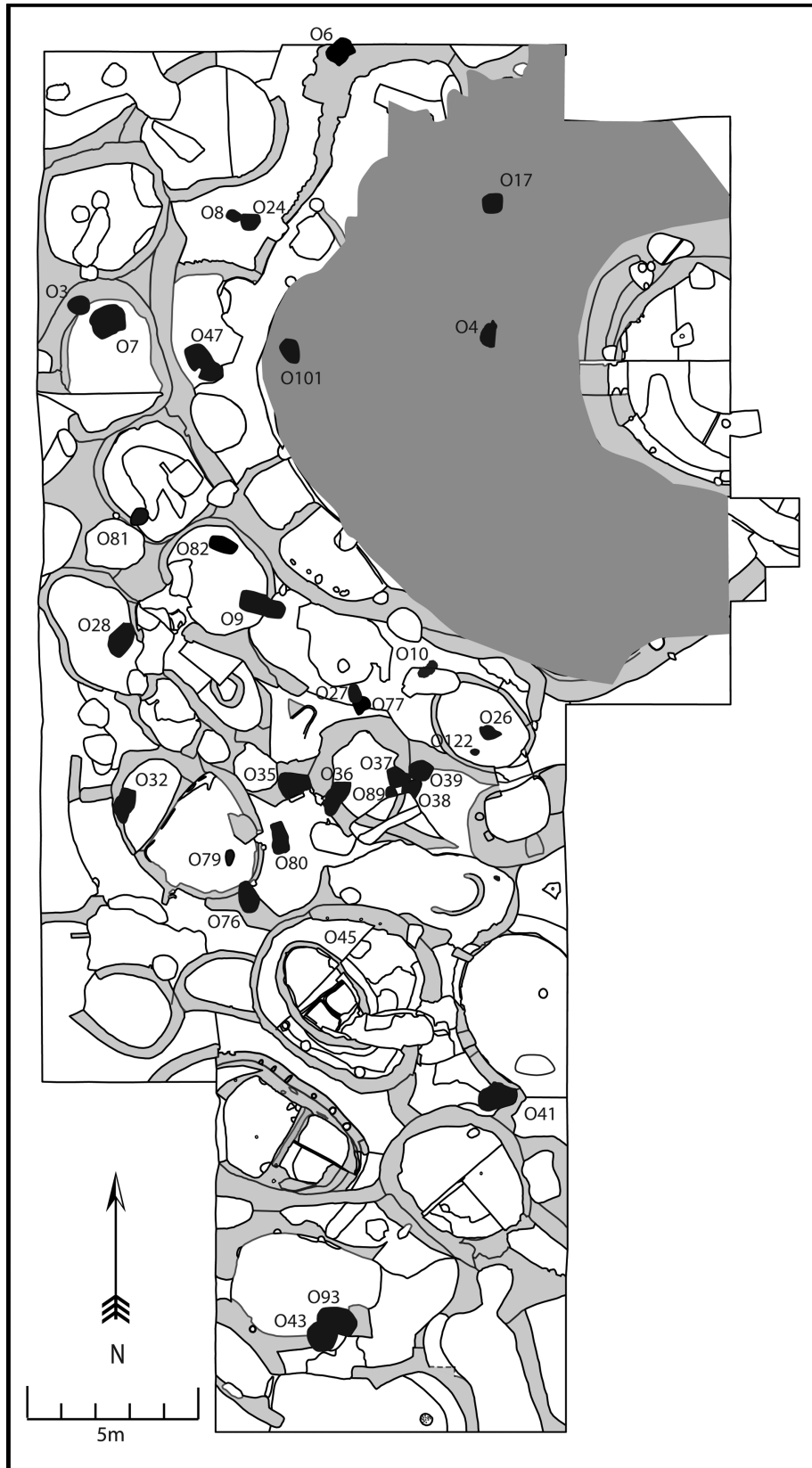


Figure 6.5. Distribution of burials at WF16.



Figure 6.6. Burial O93 from the northeast.

typology of the chipped stone along with twenty-nine new AMS radiocarbon dates from the 2008–2010 excavation confirm that the settlement remains are entirely encompassed within the PPNA period.

Excluding a group of six Antique (Nabatean-Byzantine) burials that were dug into the Neolithic deposits and one probably Bronze Age burial, more than forty burials of adults, juveniles, and infants from a variety of contexts are thought to be PPNA in date. Key information from field observations is summarised in Table 6.1 while Figure 6.5 illustrates their distribution and a sample is illustrated in Figures 6.6–6.17. In the absence of formal osteological analysis, our definitions of adults, juveniles, and infants are made on the basis of site excavation records. These document instances of unfused epiphyses for juvenile skeletons and place recognisable neo-natal remains within the infant category but are necessarily restricted in their level of detail.

A little less than half of these burials occur relatively late in the stratigraphic sequence at WF16, being located immediately below the deflated and disturbed horizons. They had suffered from erosion, many of the bones are poorly preserved, and the level from which their burial pits had been cut is no longer present. The remaining burials were sealed by PPNA deposits. Basic contextual and stratigraphic information for each of the Neolithic burials is given in Table 6.1, while full details of their excavation will be contained within the forthcoming site report (Mithen et al. in prep.).

The absolute chronology of the Neolithic burials at WF16 is yet to be established and their dating to the PPNA is currently based on site stratigraphy, material culture, and analogies in burial practice between those burials that were securely sealed within the PPNA sequence and those that were surviving at the top of that sequence. It is important to stress that the differences between the Antique burials and the Neolithic burials



Figure 6.7. Burial O27 from the south.

were fundamental in almost all aspects of mortuary practice, including the shape, the size, and the depth of the burial cuts; body treatment; and material culture. Equally, the specific nature of the Antique burials at WF16, which were placed in deep graves with characteristic undercut side chamber and lintel capping, clearly distinguishes them as a separate group. The instance of a probable

Bronze Age burial is supported by associated pottery within the burial fill, pottery otherwise being entirely absent at the site. While a small number of remaining burials from the top of the sequence, especially among those that had suffered substantial disturbance and deflation, could also date to the Bronze Age, the majority show consistent affinities with the PPNA in terms of



Figure 6.8. Burial O36 from the northwest.

both the material culture and the mortuary practices. The remainder of this contribution deals purely with the burials and the associated mortuary practices, which we are confident are PPNA in date.

#### PPNA MORTUARY PRACTICES AT WF16

##### **Spatial and Stratigraphic Considerations**

The spatial distribution of burials at WF16 (Figure 6.5) suggests two main concentrations in the central and the northern parts of the 2008–2010 excavation trench. Burials O41, O43, and O93 (Figure 6.6) seem to be outliers to the south, although scatters of disarticulated human remains have been found inside nearby Structures O45 and O12. Burials in Structures F8 in Trench 2 and F3392 in Trench 3 were discovered during the 1997–2003 evaluation and were located immediately to the north of the excavation trench and on the adjacent knoll to

the east, respectively (Figure 6.5). It is difficult to ascertain whether this spatial patterning of burials is meaningful, considering that different parts of the site have been excavated to different extents and the burials occur at different stratigraphic levels. Even those that seemingly occur in the same horizon at the top of the stratigraphic sequence, that is, immediately under the deflated and mixed overburden, probably do so superficially, as in reality we cannot tell how many cultural horizons have been lost by erosion and hence whether these had been cut from the same or different levels. A key question is whether the structures, and the settlement as a whole, had been abandoned when these latest PPNA burials were made. Had the site become a cemetery occupied by the dead alone, or did it also remain a settlement for the living?

Although yet to be formally demonstrated, the large circular structure O100 (Figure 6.5) is believed to be late in the PPNA sequence. Unlike all others, this had



Figure 6.9. Burial O37 from the south.

free-standing walls and particularly massive stone mortars. Its survival has been facilitated by having been constructed within a depression on the knoll caused by the earlier semi-subterranean Structure O75 (Mithen et al. 2011). The presence of several partially surviving stone wall arcs, large quantities of stone rubble, artefacts, and massive stone mortars within the deflation horizons across the knoll suggests there may have been other free-standing late PPNA structures on the knoll. These appear to have been almost entirely lost by erosion, with their remnants being heavily disturbed

by post-depositional processes (wind, rain, burrowing animals, past vegetation, trampling by goats, later pre-historic and historic human activity, Bedouin tents, etc.) and rarely possessing any structure or contextual information.

If this interpretation is correct, it suggests that the latest PPNA burials excavated at WF16 were made by the inhabitants of these later and mainly lost structures, cutting through earlier PPNA deposits, which were either denuded walls or infilling deposits of disused semi-subterranean structures. With around 50 percent of



Figure 6.10. Burial O38 from the east showing white residue and linear black markings on the back of adult skull.

the latest burials cutting through the old walls (Table 6.1, Figure 6.5) it may be the case that the walls were targeted and that the knowledge of past structures was still within human memory or passed on within the community. Alternatively, the old walls might have been encountered during the construction of the new structures and either formally or informally referenced by the positioning of the foundation burials related to the new constructions, thus providing a symbolic link between the PPNA past and PPNA present.

#### Primary and Foundation Burials

The majority of burials (although possibly not of the number of individuals represented) at WF16 were primary interments containing intact, articulated skeletons. Bodies with at least sufficient skin and sinews to maintain skeletal articulation were typically positioned into tightly fitting graves in a crouched position, often with the one arm flexed so that the hand rests below the skull, providing the impression of sleeping. The tightly flexed

bodies may have been bound or wrapped to maintain their position as they were apparently squeezed into the burial cuts. Infants, juveniles, and adults appear to have been treated in the same manner. There appears to have been no preference for resting the body on its left or right side or its orientation.

A number of such primary burials, most often of adults, were situated below the floors of the newly constructed structures as foundation burials, which could indicate that deaths of certain members of the community might have acted as a catalyst for the reorganisation of a particular structural space within the settlement. We have argued elsewhere (Finlayson et al. 2011) that the diversity of structural forms and the evidence for their use at WF16 do not support the view that any particular structure on the site could be seen as a household specifically associated with a kin-related group and that, in fact, the entire mosaic of structural spaces on the site was, more likely, serving the community as a whole. As such, the foundation burials at WF16 are also unlikely to represent household founders, and the relationships between



Figure 6.11. Burial O39 from the north.

individuals buried in, under, or over particular structures were probably qualified in other socially meaningful ways and this might have been reflected in multiplicity of differently choreographed relationships among the community, the burials, and the structures. It is important, therefore, at this point to emphasise the overall level of variability in the mortuary practices at WF16 including deviations from a single primary inhumation described previously.

There are several examples of foundation burials from different parts of the site and different parts of the stratigraphic sequence. Burial O47 is a good example of the association between the old and the new architecture described earlier. Its cut truncated a disused plastered wall as well as a bench surface of monumental Structure O75. The broad bench surface, among other things, provided a good solid platform for a new structure, the evidence

for which is derived from the make-up layer and overlying stone surface, constructed directly on top of Burial O47. A cup-marked stone was found adjacent to the remains of the surface, these two components being all that was left of this upper structure apart from a shallow construction cut, which provides its vague footprint. The burial itself contained a semi-crouched adult inhumation lying on its right side with the left hand placed under the head. A flint blade was clearly placed on the chest of this individual and another stone object was found in the fill nearby. The cut of the burial disturbed an earlier infant burial. The cranial fragments from this burial were scattered in the fill around the adult skeleton, as well as within the overlying make-up deposit.

Burial O7 was also a primary crouched adult inhumation, but lying on its left-hand side. The fill around the skeleton contained a hammerstone, an El Kham point,



Figure 6.12. Burial O28 from the southeast.

and a flint pick. Burial O7 provides another example of a foundation burial positioned between two successive phases of construction. Unlike Burial O47, however, which cuts into earlier structural elements, Burial O7 was located centrally within the backfill of Structure O33. This backfill, composed almost entirely of pisé rubble from a demolished structure, was not itself devoid of human remains. Fragments of a maxilla and a cranium (O128) were present at different levels within it. The reason for placing foundation Burial O7 in between the walls rather than into the walls of Structure O33 might have been purely due to the fact that the remains of these walls were re-used as the foundation for the construction of the over-lying Structure O31, which shared the same footprint. At some later stage, Burial O3 was cut into the floor and wall of Structure O31, but any possible association with a further phase of construction was removed by deflation, which also damaged the skeletal remains.

It is not clear whether or not the disturbance of an earlier infant burial by the cut of Burial O47 was deliberate, but other examples found at WF16 show that the position of at least some of the older burials was not only known but also actively curated by the living community.

Burial F8(298) within Structure F8, a sub-circular stone-walled structure located in Trench 2 (Finlayson & Mithen 2007), appears to have been a foundation or dedicatory burial that had been an integral part of the primary floor constructed within the first phase of the structure. This consisted of a wall made from large boulders backed by re-deposited gravel and a solid floor constructed with mud-plaster packed around stones into which a quern stone had been set. Immediately adjacent to this was a burial pit. This contained articulated and disarticulated bones of at least two adults and one juvenile. There was a single human skull (Roberts 2007). The spatial area of the floor and survival of the skeletal remains suggest that





Figure 6.13. Burial O82 from the southwest.

activity within this structure had been limited, although flint debitage immediately around the quern indicates that it had not been used for a symbolic purpose alone.

Part of the burial pit had been sealed by a second floor, through which a pit had been cut from a higher level. This suggests that there may have been a primary burial before the second floor was laid, with the location of the burial having been marked and then later re-opened for the addition or the removal of bones, or both. This may explain the mixture of articulated, disarticulated, and arranged bones, and the variable fills within the pit. The skull was contained within the burial and protruded above the plaster floor, appearing to have been an original built-in feature, possibly acting as the burial marker itself. Adjacent to the quern there was an unplastered area of floor within which a series of silty fills had accumulated. Owing to the preservation of the skull, together with the soft nature of the unplastered elements of the floor covering well-preserved bones, it appears unlikely that there had been substantial activity within the structure.

A similar and perhaps more poignant case of prolonged knowledge of earlier burials was found in Structure O64, where Burial O81 was sealed by at least ten successive

mud-plaster floor surfaces. Despite this it must have been possible to locate the burial as it was accessed via a small oval pit that was positioned immediately above it. The excavated pit reached through to the burial to expose parts of the pelvis, the ribcage, the right elbow, and upper legs of a crouched adult skeleton lying on its left with feet to the south and skull presumably to the north. The rest of the burial including the skull and foot bones was sealed by the sequence of floors and occupation, which represents not only the repeated resurfacing of the interior but also the time elapsed between the act of the burial and its re-visiting via the pit. Unlike the case of the primary burial in Structure F8 there had been no attempt to remove or rearrange bones.

Immediately to the southwest of Structure O64 a mud-plaster lined pit O14 was constructed apparently with full knowledge of the presence of Burial O81 in the side of adjacent Structure O64. Pit O14 undercut older Structure O64 in the exact place where Burial O81 could be accessed and its lining shows evidence for repeated re-plastering events, perhaps due to the repeated exposure of the burial for an as yet unknown purpose. The burial, being sealed by later sequence inside Structure O64, remains unexcavated.

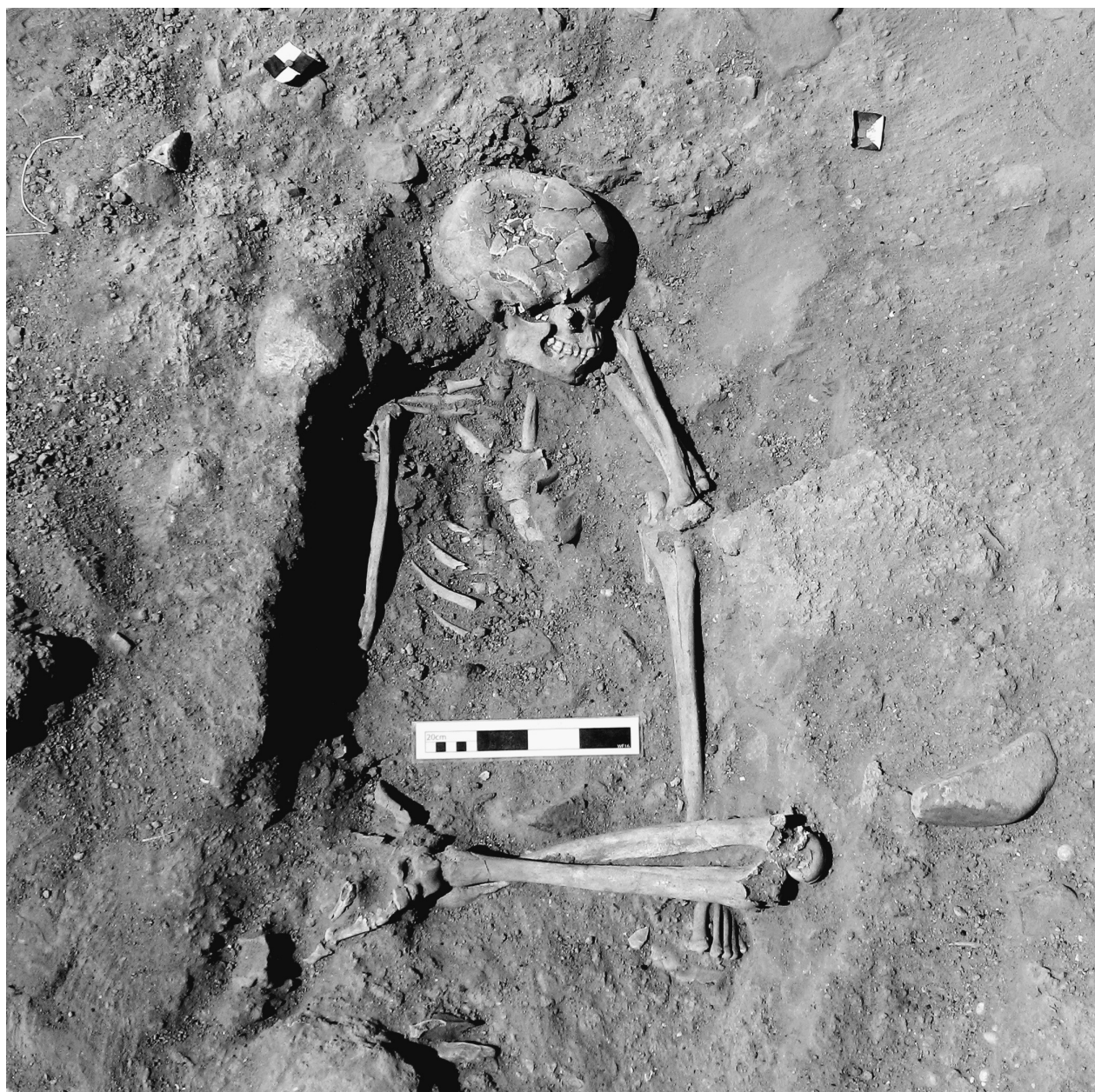


Figure 6.14. Burial O80 from the south.

In other cases, such as Burials O93 (Figure 6.6) and O43, later burials were positioned almost directly above earlier burials, placement that seems unlikely to have occurred by chance. These two ‘outliers’ were located at the southeast perimeter of Structure O19, a relatively small structure located in the far southwest corner of the excavation (Figure 6.5). They are typical of the burials at WF16, consisting of cuts made through the floor and wall of a structure to create a pit into which crouched primary burials were placed. Burial O93 (Figure 6.6) contained a

crouched skeleton whose right arm was bent across the body and tucked under the left humerus with the right hand partially under the skull (Figure 6.6). The left arm was flexed with the hand up to the chest. Both legs were tightly bent with the knees together and the feet slightly apart. The fill contained a greenstone bead and two flint blades, interpreted as deliberately placed grave goods. A second cut had been made directly above this interment into which a primary, crouched burial (O43) had also been placed. Unfortunately, the skeleton was poorly

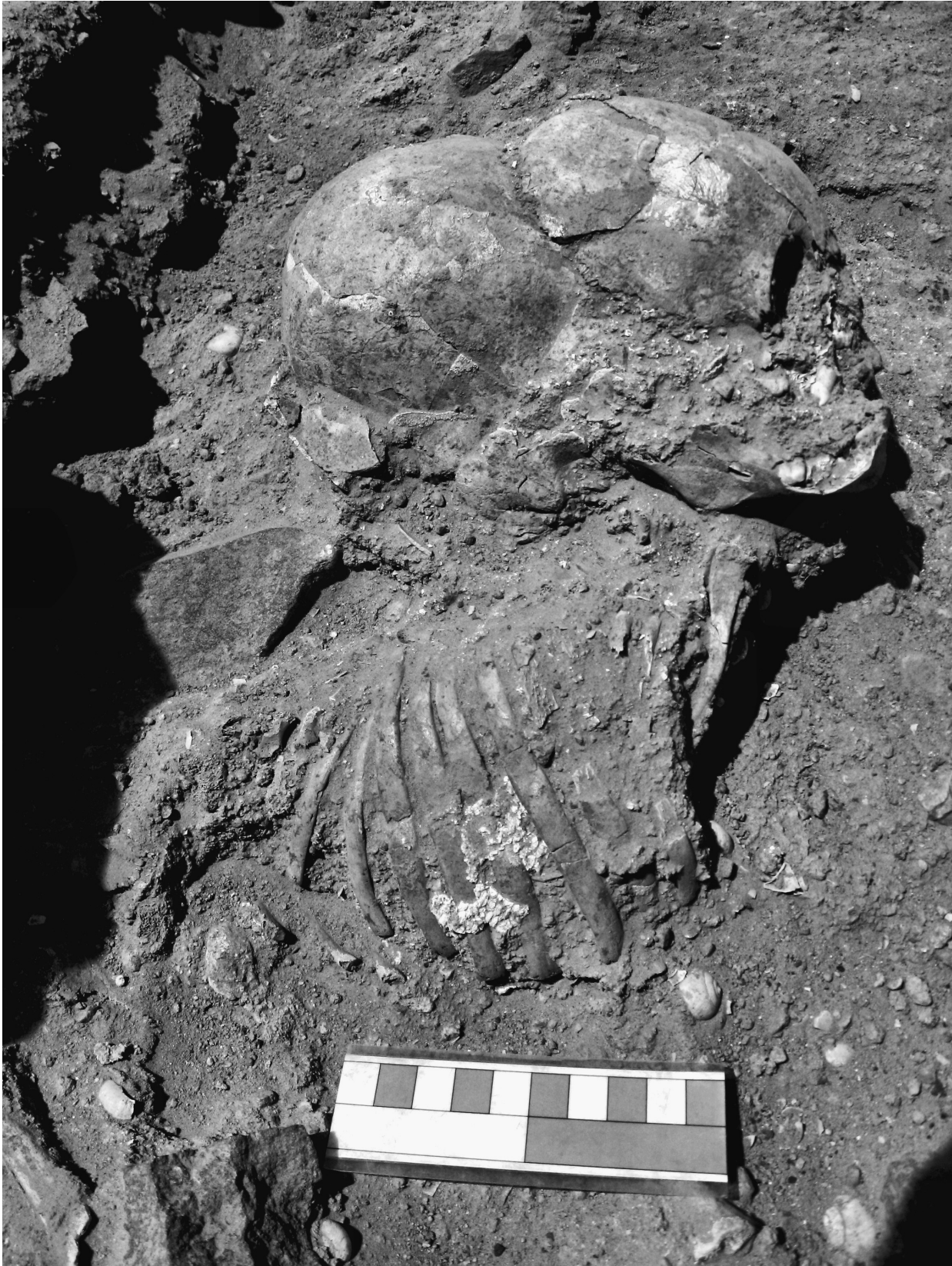


Figure 6.15. Burial O35 from the south showing white residue on the ribcage.

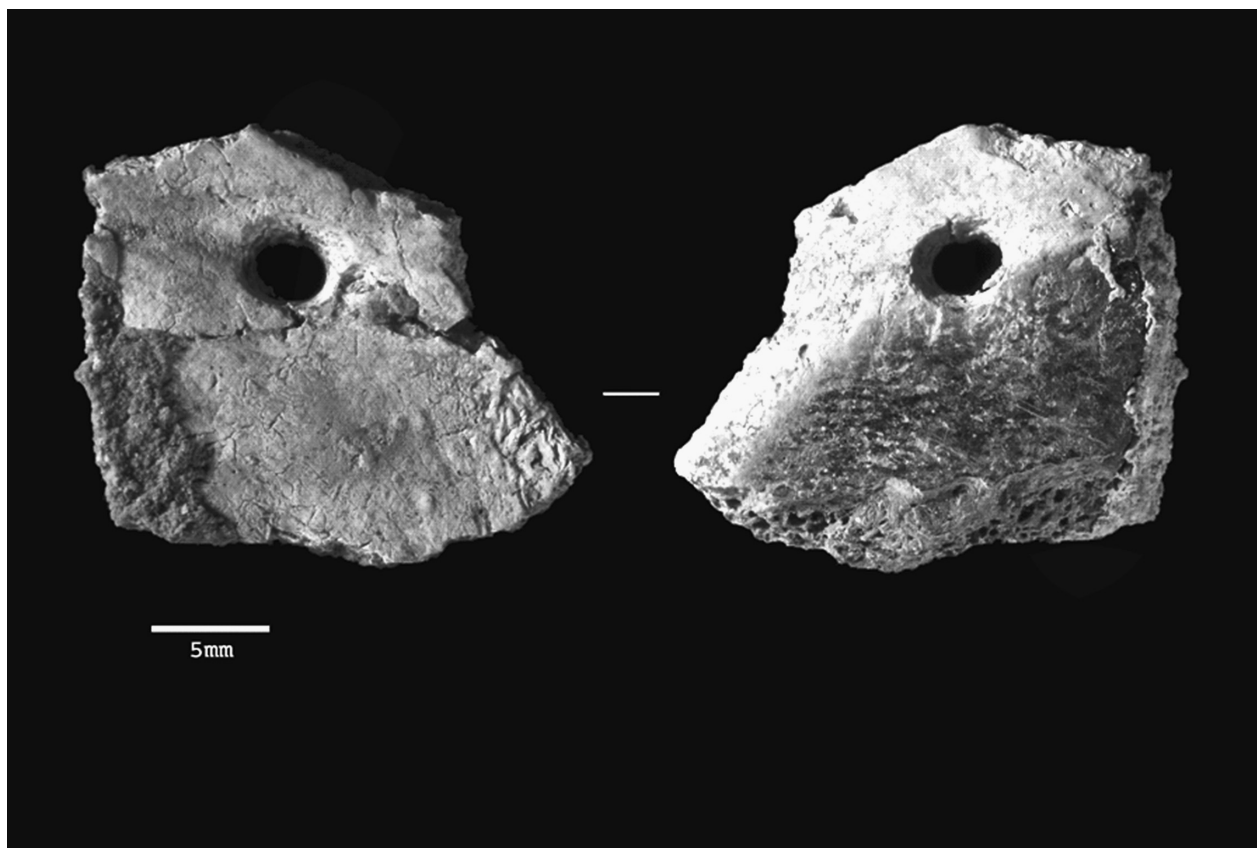


Figure 6.16. Pierced and polished fragment of human cranium SF558.

preserved. Lenses of light grey sediment adhering to the better-preserved bones have been interpreted as deliberately placed gypsum deposits on account of better preserved instances of such practice found on the site (see later discussion).

#### Secondary Burials

At least five of the WF16 burials – F8(298), O32, O38 (Figure 6.10), O39 (Figure 6.11), and O77 – contain groups of disarticulated bones that are judged to have arisen from deliberate (re-) burial rather than post-depositional disturbance. The burial within F8 appears to have begun as a primary foundation burial and then had bones removed and inserted through a cut made from an upper floor horizon. As far as can be deduced from the excavation this later intrusion was a single event, but the new arrangement of bones now contained at least three individuals. The original skull, which was set into the mud plaster floor, formed not only part of the original burial, but an integral part

of the original building design of the whole structure. Following the resurfacing of the interior the skull was left as a visible feature in the floor.

The most dramatic example of secondary burial also emphasises a concern with skulls: Burial O32. The burial cut was N-S orientated and had clipped the interior face of the pisé wall that formed the western arc of the oval Structure O72. The structure was filled with silts at this point in time and was most probably out of use, although the extent of deflation prevents us being sure whether or not another structure on the same footprint had succeeded it, as was the case with Structures O33 and O31. The Burial O32 cut was roughly rectangular, providing just enough space to accommodate a skeleton, requiring it to have been tightly crouched. The burial was first recognised by the remains of a single human cranium immediately below the overburden deposit. Excavation revealed that this was the first of at least ten substantial cranial fragments, which had been stacked together. The upper four crania were in a better state of preservation and almost certainly represent four different individuals.



Figure 6.17. Burial O24 from the northeast.

The lower group was constituted by cranial fragments, which might represent a further four individuals. The cranial fragments of this lower group had fractured after placement, possibly resulting from the re-cutting of the grave, which may have happened on more than one occasion. It is possible that the better preservation of the upper four crania was due to their separate deposition at the end of the sequence. Discrete burial cuts could not be identified within the surrounding loose fill, which contained much disarticulated bone.

Directly underlying the lowest cranial fragments were disarticulated adult long bones identified as a left femur and a right tibia. These were placed at a right angle to each other with the tibia angled downwards. These bones belonged to an individual whose partial skeleton lay in a crouched position on its right side at the base of the burial. The right leg was in situ flexed towards the chest, but without the tibia, which had been moved towards the upper part of the body. The long bones of the left leg

had all been moved upwards, leaving only the foot bones in their original position. The left leg must have been originally flexed, too, as there was no room within the north-south orientated sub-rectangular grave cut, 1.30 × 1.40 × 0.25 m deep, for any other articulated arrangement. The right knee met the right elbow and the right arm was flexed in the opposite direction, but the bones of the right hand were scattered throughout the fill. The upper part of the left arm survived in situ, but the position of the lower arm and hand is not known. The position of the right hand suggests that it may have originally been placed underneath the head, but the skull and mandible were missing and in their place were the long bones of the left leg, as well as the tibia of the right leg. Whether the skull was present with the original burial, included with cranial fragments of the secondary interment, or taken elsewhere, or whether the body had been decapitated prior to burial cannot be established without osteological analysis.

Several objects were found in the grave, but it is difficult to determine the stage and circumstances in which they entered. It is possible that a bird bone and a flint core belong to the primary phase because of their close association with the *in situ* part of the primary burial, but the next stage in the history of the burial is so intrusive that the finds are more difficult to assign to a particular phase. Judging by its position near to the skeleton a flint blade might belong to the primary burial, too, while a flint point, which was found under the repositioned tibia, might be an addition, or perhaps it was moved during the re-cutting of the grave. It is even more difficult to be sure about the provenance of the finds beneath the skeleton. These included an El Khiam point and could have been taken up from the underlying loose deposits rather than being a deliberate part of the burial.

Despite its similarities to Burial F8(298), Burial O32 also provides notable contrasts. The similarity resides in the intrusion into a primary crouched burial and the rearrangement of the bones of this individual, as well as the introduction of the remains of completely different individuals. The contrasts are in the differential treatment of the original skull inside the primary burial, which in F8 remained *in situ* and in Burial O32 was either removed or not present to start with, and in the content of the secondary interments, which in F8 are mainly long bones and in O32 skull fragments of different individuals. Nevertheless, in both cases there is an over-riding concern with skulls and long bones.

Yet another completely different secondary treatment of human remains was observed in Burial O39 (Figure 6.11), which was cut into the eastern wall of Structure O83. It formed a tight cluster of four adjacent burials with Burials O89, O37 (Figure 6.9), and O38 (Figure 6.10), the latter two of which were cut through the same wall. It seems likely that there was a deliberate avoidance of intercutting between these burials and, hence, knowledge of their positions relative to each other. The Burial O39 was cut across its northeast extent by a pit, filled with mid-yellowish grey silty sand containing a high concentration of small stones. A ground-stone pestle had been placed centrally at the base of the pit. The pit cut an orangey brown silt forming the uppermost fill of Burial O39. This deposit contained the human remains and a range of chipped stone tools and debitage, including a blade, an El Khiam point, and a possible borer. Some of these tools were coated in a white material, as was a stone found with them. A green stone bead was also found in the deposit.

The skull was the highest placed part of the skeleton. It was tilted at ca. 45° on its right temple and faced north-northeast. Adjacent to and resting against the apex of the skull to the south-southwest was a greyish white strip of clayey silt. This formed a bowl-like container filled with compact orangey brown silt. The excavation of the remainder of the fill in the northern part of the burial revealed further disarticulated human remains. The mandible was in place and tightly shut against the maxilla. The front teeth were touching the pelvis, which was partially overlaid by the top of the right femur, but the two were not attached to each other. The femur and a bundle of other bones were 'wrapped' inside a white paste-like material. This 'wrapping' material, which has since been chemically analysed and confirmed as a mixture of gypsum, quartz, and calcite, had a well-preserved impression on its outer surface, resembling a weaving or basketry pattern.

The bones 'wrapped' with the right femur could not be fully identified during the excavation as they were all lifted as a block to preserve the impressed pattern on the gypsum 'wrapping'. Underlying the 'wrap' were part of a tibia and some finger bones. The western part of the burial contained fragmented bones, which included part of a humerus, the head of the left femur, part of a tibia, and the remains of a lower arm. A hand and the finger bones were placed underneath the skull, although clearly detached from the upper arm and the rest of the body.

The eastern part of the burial contained a compact brownish orange sandy silt deposit, which extended from the eastern edge of the burial up to the skull of the skeleton. A compact lump of light greyish white sediment, measuring 0.21 m × 0.12 m × 0.10 m, underlay this deposit and sat at the base of the eastern part of the burial cut. The white colour of this deposit was very similar to that of the bowl-shaped deposit that was found on top of the southern side of the skull. Both deposits appeared to contain some gypsum, which explains their whitish colour, but they were both mixed with grey silt and neither was as clean as the gypsum 'wrapping'.

Traces of a completely different brownish grey silt fill were found on the opposite sides of the cut, suggesting that the burial was cut into an older feature, barely larger than O39 and directly underlying it. Too little of it had survived to be able to say whether it was a pit, a post-hole, or perhaps the cut of the primary burial from which the semi-articulated remains found in Burial O39 were exhumed and afterwards partly wrapped in a basket

or a bag lined with white paste and buried in almost exactly the same spot. This would to some extent follow the pattern of secondary burials in F8 and O32, which were made into the pre-existing primary burials and involved rearrangement of the primary remains. What we do not know as yet in the case of O39 is whether more than one individual was represented among the disarticulated and 'wrapped' remains.

The remaining evidence for secondary burial on the site is from Burial O38 (Figure 6.10), which contained a child's skull, which appears to have been placed directly above an earlier interment of an adult, and Burial O77, which consisted of a group of disarticulated long bones that may have been from a single individual; for the complete details we must await the osteological analysis.

#### Removal of Body Parts from the Primary Burials

Having reviewed some of the intact primary burials on the site and the full range of evidence for the secondary interments it is apt to ask from where the human remains in the secondary burials derived. Only part of the re-arranged bone content in Burials F8 (298) and O32, for example, can be related to their primary burials, and in both cases bones were added from elsewhere. Some attention should therefore be given to the incomplete primary burials. The poor preservation of numerous burials makes it difficult to assess whether missing bones were caused by erosion or deliberate removal. Burials O41 and O26 were both missing the upper elements of the skeleton. We strongly suspect that these had been deliberately removed, perhaps in the process of specifically targeting the skull and the upper body.

Burial O41 appears to provide a robust example in which a secondary pit had been excavated over the burial for the removal of the skull, with the upper torso also having been either deliberately removed or destroyed during this process. This burial was located on the outside of Structure O53 at the eastern edge of the excavation trench. It was exposed immediately below the deflation horizon with its eastern end cut into the wall of Structure O53. The burial fill was cut at its western extent by a sub-circular pit, which was 0.70 m in diameter and filled with stone rubble. The base of this pit was at the same level as the base of the burial, both being shallow with maximum depths of 0.20 m. The cut of the pit removed the western half of the burial together with the upper part of the skeleton it contained. The remaining

part of the skeleton, which was lying on its right side, comprised the partially surviving ribcage, bones of the right arm, the right scapula, most of the pelvis, and the bones of both legs, which were tightly flexed at the top of the eastern end of the burial. There were few vertebrae present; the left arm and hand were missing, as were both clavicles and the skull. These would have been situated in the area cut away by the pit.

The surviving end of the burial was 0.60 m wide with regular sides with sharp corners, suggesting that the grave was originally rectangular in shape. Considering that the burial did not continue beyond the pit to the west, it could not have been more than 1.20 m long. The position of the leg bones in particular shows that the body was crammed tightly into this small grave. The burial fill contained a limited amount of chipped stone and animal bone, among which were five flint blades. Two further flint blades were found in the fill of the later pit, as were small amounts of other chipped stone, animal bone, human bone, and human teeth fragments.

Interpretation of this evidence is that a small rectangular burial (O41) containing a tightly flexed inhumation had been made when Structure O53 was already out of use. The burial clipped pisé walls, as has happened with numerous other burials excavated at WF16. A pit had then been dug into the western half of the burial, the skull and some of the bones of the upper torso were removed, and the pit was backfilled with stone rubble.

Burial O26 contained a skeleton within light grey-brown loose silt. The fill showed signs of intense insect burrowing around the skeleton, which was orientated northwest to southeast on its left side and would have originally faced southwest. The entire upper part of the skeleton above the lower four ribs was missing. Because of the similarity of deposits inside and outside the burial it was not clear whether the upper part of the body was lost as a result of erosion or whether there was a secondary intrusion that had removed the upper part of the burial. Judging from what remained, the body had been packed tightly into a sub-oval cut in a flexed position with the pelvis and the sacrum in the northeast corner of the grave and the feet in the adjacent northwest corner. A large stone was situated on top of the pelvic area and another was found between the leg bones and the lower ribcage. The fill contained a number of objects, including two chipped stone artefacts, a ground-stone pestle, two unidentified fragments of worked stone, and a fragment of red ochre.

The only clue as to what might have happened to the upper part of the skeleton in Burial O26 was the somewhat unnatural position of the remaining part of the spine, which was pressed against the northeast side of the cut in a near-vertical position. From the position of tightly flexed legs, lying flat on the left-hand side, it could be expected that the rest of the skeleton would have also been lying on its side, like the majority of primary burials at WF16. The position of the spine suggests that the skeleton either was laid with its upper body raised or that this position was post-depositionally acquired, perhaps as a result of pulling the upper part of the body out of the cut. This could have only happened in this way if the skeleton was still held together by some of the flesh and sinews, the state in which remains in Burial O39 must have been at the time of their secondary burial. The positioning of large stones on top of the body of the individual in Burial O26 was a unique occurrence among WF16 burials, which seems to have happened at the time of the primary interment.

#### Display and Relationships of Skulls and Structures

The skull of the primary burial in Structure F8 was made into a visible feature within the floor of the structure and had remained displayed in this way after the rearrangement and secondary burial of multiple human remains followed by the laying of the new floor. Similar treatment of the skull in relation to the floor of the structure was found in a stone-walled circular Structure F3992 excavated during the 1997–2003 archaeological evaluation on the adjacent knoll to the east (WF328; Finlayson & Mithen 2007). The structure is thought to occur relatively late in the PPNA sequence. A combination of sparse deposition and substantial erosion resulted in there being limited stratigraphy on this knoll. Burial F39910 was found within a pit cut into the underlying bedrock within F3992. The burial contained a complete primary interment of an adult in a crouched position. The skull had been positioned on a ‘pillow’ stone, requiring it to have been raised and disarticulated from the neck. It seems likely that the skull had once protruded through the floor level to be exposed within the interior of the structure, just as was the case with the skull in Structure F8. The floor of F3992 was not well enough preserved to assess contemporary activity. Unlike in Structure F8 there was no sign that this burial had been reopened during the use of the structure.

The possibility of skulls’ having been displayed within structures, perhaps in niches or suspended, is suggested

by the scatters of human remains O129, O128, and O44 found among the rubble of collapsed or demolished Structures O45, O33, and O12. Structure O45 is one of the most complex and best-preserved structures excavated at WF16. This is partly because it appears to have had a distinct function during at least one phase of its existence involving an internal domed structure, possibly used for storage, and a raised floor. The structure burned down in a single event that led to the preservation of structural evidence, such as a flat roof made of mud on reeds, roofing timbers, and stone supports for a raised floor.

The destruction by fire resulted in the deposition of large quantities of pisé blocks, rubble, and charcoal within the interior of the structure. This contained disarticulated human remains: loose teeth, small cranium fragments, and one mandible (O129). The mandible was crammed between pisé blocks in the southernmost part of the interior, where the highest concentration of loose human bones and cranium fragments were also found, some of which were partly burnt and blackened. The distribution pattern was affected by the burrowing animals, demonstrated by the location of a burnt cranial fragment within the fill of an animal burrow cut into burnt rubble. It appears likely that the teeth and cranial fragments in this area belong to the same skull as the mandible. One possible interpretation is that the flames from the fire that destroyed the building reached and partly charred a human skull, which was either hanging from the roof, resting in some niche high up in the southeast part of the wall, or built into the wall itself. When the structure collapsed, it shattered into pieces over the area below and a few pieces perhaps flew farther still across the interior.

A similar concentration of scattered fragments of human mandible, teeth, and cranium (O44) was found among structural pisé rubble in Structure O12, adjacent and to the south of Structure O45. These remains were concentrated within a narrow part of the stratigraphic sequence in Structure O12 relating either to collapse or demolition of the secondary structure on the same footprint as the original and largely subterranean structure below it. The only difference between O44 and O129 is in the fact that neither these skeletal remains nor the pisé rubble in Structure O12 was burnt. Nevertheless, it seems clear that the remains of the skull and the mandible were deposited together with the rubble, most likely as part of the collapse of the secondary structure, in which case the same kind of interpretations apply to O44 as to the burnt remains O129.



Another similar case is the maxilla and cranium fragments O128 found among pisé rubble in Structure O33 in the north part of the site. Although the structural rubble in O33 most likely represents deliberate backfill of the subterranean part of the structure, this almost certainly happened very rapidly and perhaps in a single event. The human remains O128 appear to have been deposited as part of the rubble, suggesting that they were perhaps integrated within the pisé rather than suspended or otherwise attached to the wall of the structure. The same could have been the case with O129 and O44 inside Structures O45 and O12.

Not many pisé walls on the site have been excavated, preventing us from assessing the full range of deposits that might have been incorporated inside them. A small part of a wall in Structure O56 was excavated and found to contain a complete set of caprine horns, which were not visible from either the inside or the outside of the structure. A disused post-hole set into the wall of Structure O75 contained a fox skull, which also would not be seen behind the plaster. This example of a probable symbolic deliberate deposition of an animal skull could be an indication that the scatters of human skulls in collapsed or demolished Structures O33, O45, and O12 might have been originally incorporated within their walls rather than simply displayed within the structures.

Elsewhere at the settlement, within the backfill of Antique Burial O71, an isolated piece of human cranium (SF558) that was recovered had been polished and pierced, with the hole being well rounded, suggesting it had been suspended from a cord (Figure 6.16). Antique Burial O71 was cut through the PPNA midden deposits (Midden O60) and backfilled with the same material, so it is likely that the pierced cranium fragment originally derived from the PPNA midden. A second pierced bone object (SF572) was found in the same backfill and a third (SF566) in the surrounding midden; it remains unconfirmed whether they are animal or human. The shape and the size of the piercings were very similar in all three pieces, which could have been used in several different ways. They might have been pendants or utensils or have been hung for display in one of the structures.

The existing evidence indicates a complex set of relationships between the human remains and the structures in which they are found. It is possible that the importance of skulls in the PPNA was enacted in more than one way. In some instances this was done with focus on display so that the skulls were visible at the floor level or possibly suspended from the roof or the walls or, alternatively,

completely hidden from sight inside the walls of the structures. In addition, it is possible that human cranial fragments and other skeletal remains were used as corded mobile artefacts either carried about the person or displayed in the structures.

### Midden Burials

Four sets of human remains were found within the area of Midden O60, which accumulated within the walls of large Structure O75 and around the inserted Structure O100 with which the midden is at least partly contemporary. One of these, Burial O4, was cut into the top of the surviving midden deposits, and as with the rest of the burials found immediately underneath deflation horizon, we cannot be sure of the kind of activity on the site to which it actually relates.

The remaining three 'burials' were sealed within the midden deposits and were all fragmentary to varying degrees. Burials O17 and O101 appear to have started as crouched inhumations of an adult and a juvenile, respectively, but were both probably disturbed post-depositionally. The adult in Burial O17 was incomplete, but lying on its right side and originally facing west. However, as a result of some later activity the cranium has moved forwards in front of the mandible and faced south. It is unclear whether the incompleteness of the skeleton was also due to this disturbance or whether the initial interment did not contain the whole of the individual from the beginning. A second burial (Burial O101) comprised the bones of a child in a crouched position with the right arm lying by the body, the left arm extended, and the legs completely disturbed lying in a sandy silt. It was not possible to detect a cut for the burial, which may have simply been placed within the accumulating midden.

The remaining 'burial' O123 consisted of an articulated human foot and some other disarticulated bones. Once again there was no visible cut associated with these bones and the likelihood is that they represent remains of a heavily disturbed burial, whether inside a cut or loose in the midden. Alternatively, such remains could represent midden discard from a burial disturbed elsewhere on the site, a PPNA version of so-called trash burials of the PPNB (Rollefson 1983). Other isolated instances of disarticulated human remains were present from several disused structures, which served as a dumping ground, such as disarticulated mandible (O78) from the loose infill of Structure O72.

A difficulty with the interpretation of such remains is in whether they can really be qualified as discard even when found in midden deposits. Burials O17 and O101 do not greatly differ from many of the burials in other contexts on the site, while the practice of partial secondary interments is also well attested elsewhere. Furthermore, the evidence from WF16 shows that middens cannot be viewed simply as dumping grounds for unwanted discard. We do not know exactly what period of time was required for Midden O60 to accumulate, but we do know that many different activities took place within it during this time and are represented by series of pits and post-holes, as well as the knapping debris. It appears that burials were another aspect of what was happening in this area, and it would be wrong to argue on the basis of their midden location alone that they were somehow less meaningful or associated with a particular social class. In this instance, at least, 'trash' burial is not a very helpful label. Rather than 'dumping' these burials into particular contextual category, often defined purely by preservation and secondary activities, it is probably more insightful to regard them as part of the overall mortuary practices intrinsically linked to the life of the settlement as a whole. We have seen elsewhere on the site how the burials became part of the structures and became their founding and defining elements, either overtly or covertly. Similarly, burials inside Midden O60 are not only 'in the midden' – 'they are the midden', defining it for what it is together with other activities that took place there.

#### 'Decoration' of Skulls and Other Bones

Several of the burials contained patches of white sediment, either as flecks within the burial fill or in some cases adhering onto bones. Preliminary analysis indicates that this is not a naturally occurring precipitate but a deliberately manufactured 'paste' primarily of gypsum that was applied to the bones. The most striking example is that which appears to 'wrap' a bundle of disarticulated bones in secondary Burial O39 that had been encased within a woven fabric or basket that left an impression on its surface. Other instances of similar white sediment occurring in association with human remains were observed in Burials O35 (Figure 6.15), O38 (Figure 6.10), and O43.

Burial O35 (Figure 6.15) was located within Structure O113, a poorly defined structure appearing to consist of two cells. A pit had cut the burial, destroying the southern

portion of the cell in which the burial was placed. It contained a juvenile skeleton in dark brownish grey silt in a crouched position on its left-hand side facing eastwards (Figure 6.15). The uppermost part of the skeleton was truncated, indicating that the right arm and the right leg were lost. The skull had been damaged by the later cut and the front teeth were mostly dislodged. Apart from the damage caused by the truncation, the bones were in an excellent condition. A gypsum-like white concretion was present on the ribcage of the skeleton, spanning the gaps between the individual ribs on its right-hand side. If we are correct that this is a deliberate deposition rather than natural precipitate, it could have only been applied post-mortem. Either the skin and flesh had sufficiently decayed prior to burial to enable the application of this 'paste' onto the ribcage or the grave was re-opened after soft-tissue decay for its application. In light of the fragility of infant bones the second scenario appears more plausible.

Similar white sediment was found adhering to the top and left-hand side of the adult skull within Burial O38 (Figure 6.10), which was immediately adjacent to Burials O39 and O37 (Figure 6.9). Its southwest extent had been cut by a large Antique burial (O87) making it impossible to determine how far in this direction Burial O38 (Figure 6.10) had once extended and what human remains had been destroyed. The first human remains exposed within its sandy silt fill were the front teeth of a maxilla, facing upwards. A second fragmentary skull had been placed on top of a group of large stones contained in the fill of the burial. This second skull belonged to a young infant and must have been placed in the burial pit after the placement of an adult skeleton contained deeper in the fill.

The adult skull faced north and had been severely damaged by an animal burrow. The burial fill contained white flecks, possibly gypsum, and the skull had traces of a white residue on its top and the left-hand side, possibly a gypsum-based paste. A series of linear black marks were present on the back of the skull. These might be stains from a basket on which the skull had been resting or deliberately applied pigment. It is possible, therefore, that this skull had been decorated with both a plaster-like substance and a black pigment, seeming to act as a precursor for the presence of such decoration in the PPNB.

Excavation of the stones in the north part of the burial revealed a localised deposit of dark grey ashy silt with a high frequency of white inclusions, which may be also gypsum. The silt formed a thin concave lens, as if

originally contained in some organic bundle or a bag. Apart from the skull, the only other bones that could be assigned to this individual were the remains of the lower arm and the hand, which were articulated, but truncated above the wrist. The hand was placed under the head. This might suggest that these truncated remains were part of a primary burial laid in the sleeping position, with secondary infant remains added at some later stage. It remains unclear whether the decoration (if this is what this is) on the adult skull had been applied to the partially decayed body prior to burial, or within the grave itself after the soft tissues had decayed.

Black staining was observed on most of the bones of the skeleton within primary Burial O36 (Figure 6.8), which was cut across the line of the wall of disused Structure O83. The skeleton lay on its right side in a crouched position facing eastwards (Figure 6.8). It appeared too big for the burial cut, the body having been crammed into the grave with the left hand and the feet squashed against its side. It is possible that the left femur had been dislocated from its socket in order to flex the leg sufficiently to fit into the grave. The right hand had been placed between the right shoulder and the head. The finger bones were found splayed on each side of the upper part of the right humerus. A serrated flint blade was found underneath the skull. The upper fill contained chipped stone and animal bone, as well as a small stone object shaped like a phallus, found near the elbow of the left arm of the skeleton.

The skeleton was set into compacted light grey silt, which lined the sides and the base of the burial pit and formed a 0.10-m-thick ledge at the northeast end. This mud lining made the available space within the burial even smaller. The same deposit was found around and between the bones, suggesting that it had been poured in after the soft tissue had decomposed. The bones were in a good state of preservation with the aforementioned black staining visible on most of the bones, but with no obvious pattern to it.

Overall, the evidence for the decoration or the embalming of bones at WF16 can be divided into two categories – one concerning white paste and the other concerning the black staining or possible paint. Most of these instances are much more ephemeral than the famous examples from the PPNB. Nevertheless, it is extremely significant that we can document possible precursors to such practices in the PPNA, which have not been seen before. The gypsum, quartz, and calcite paste found wrapped around some of the bones in the Burial O39 (Figure 6.11) is especially intriguing, not only for the

practice itself, but for the recipe involving three different white substances, which must have been sought and collected and mixed for this purpose, indicating that the colour was the most important quality of this material.

### Grave Goods

Numerous artefacts were recovered from within the fills surrounding the skeletal remains, including bone, greenstone and marine shell beads, animal bones, bone objects, chipped stone tools, and ground-stone objects. When the cranial scatters and otherwise loose bones in broader deposits are excluded, thirty-six cut burials remain in different states of preservation, with the majority containing finds within their fills (a ratio of 25:11). Chipped stone artefacts were the most numerous. This might not be thought significant if it were not for the fact that most of these were blades or bladelets rather than knapping debris, which is abundant throughout the site. In several burials the intentional placement of blades in relation to the body of the individual appeared highly likely. Thirteen burials contained blades or bladelets: Ten were burials containing adult skeletons, while three were juveniles. Various types of bead were the next most numerous category of finds within ten burials (five adults and five juveniles). Seven burials contained both beads and blades or bladelets. The infant burials were all without finds. What these preliminary quantifications show is that the distribution of different types of grave goods was not random and this further supports their deliberate inclusion, although it is doubtful that all of the objects found within the burials were deliberate grave goods, as some mixing and inclusion of residual finds are to be expected on as densely stratified a site as WF16.

### CONCLUSION

We began this paper by comparing the existing evidence for the PPNA and PPNB mortuary practices and noting many of the profound changes that occurred across these periods in almost all aspects of human 'culture'. Unlike PPNB mortuary phenomena, which can be set against economic and social change related to the introduction of domesticated modes of subsistence, PPNA attitudes to death probably predate this fundamental change in the way humans negotiated their existence. Yet, the PPNA was characterised by many other radical changes in social behaviour, the most salient of which was probably the explosion of symbolic

expression through material culture and architecture (Watkins 2010; Mithen et al. 2011; Finlayson et al. 2011). The evidence from WF16 excavations firmly confirms this view and adds greatly to the overall understanding of the PPNA, not least by considerably enriching our knowledge of the existing range of architectural forms and mortuary practices.

These two aspects of PPNA life appear to be closely related at WF16. The burials were fully integrated into the lived-in settlement. The construction and use of structural spaces at WF16, both in the case of monumental Structure O75 and the closely knit arrangement of smaller structures around it, seem to encapsulate communal effort and performance (Finlayson et al. 2011). The close connection and spatial choreography between architecture and burials might indicate that the PPNA mortuary practices should be viewed in a similar way. When taken with the evidence for secondary burial, the removal, decoration, and display of skulls and other bones, it would appear that the 'dead' at WF16 remained as active elements, if not members, of the PPNA community.

We are yet to grasp what might be happening with the human remains for the periods when they are not inside burials, as, for example, with those taken out of their primary burial and perhaps awaiting their secondary interment. It is reasonable to suppose that they were subject to further ritualised activity, which might involve all or part of the community, but this part of mortuary practice must remain elusive. What the range of relationships between burials and structural spaces suggests though is that the burials were used to negotiate successful regeneration of the settlement. This is demonstrated by the way that certain burials apparently deliberately reference older structures and provide foundation deposits for the new ones above. Thus we see how the idea of renewal becomes central to the functioning of the community even before we can say that such notions could have been influenced by the adoption of agricultural practices in the PPNB. Full interpretation of the WF16 burial evidence must await complete osteological analysis, along with that of the stratigraphy, finds, and further absolute dating. Moreover, it is likely that those burials so far excavated are a fraction of those at WF16 because the basal deposits in the majority of structures have yet to be excavated and hence further foundation burials are to be expected. But even with the partial information available for this chapter, it is evident that several mortuary practices that become fully manifest in the PPNB, most notably those surrounding the removal, decoration, display, and

re-burial of skulls, have clear precursors in the PPNA. Moreover, the evidence from WF16 counters the view that PPNA burial practices were relatively standardised, differentiated between adults and juveniles, and lacking in grave goods (Kuijt 1996; Kuijt & Goring-Morris 2002). Once the post-excavation analyses are fully completed, WF16 will provide an outstanding case study in which to explore more fully the evident diversity within PPNA mortuary practices and the relationship between the living and the dead at a critical phase of the transition from mobile hunter-gatherers to settled farming communities in the southern Levant.

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